REMARKS

In accordance with the foregoing, claims 1, 12, and 13 have been amended, and claim 14 has been added. No new matter is being presented, and approval and entry are respectfully requested.

Claims 1-5, 8-10, 12, 13, and 14 are pending and under consideration.

On January 25 and 30, 2007, the Examiner and the Applicants' representative discussed the Examiner's interpretation of the claim language, structural differences between the cited art and the subject application, and potential claim amendments.

Claims 1-5, 12, and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by Otto (US 4,770,548 – hereinafter Otto '548). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Claims 1-5, 12, and 13 stand rejected under 35 U.S.C. §102(b) as being anticipated by Otto (US 5,129,744 – hereinafter Otto '744). The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Claims 1-5, 8, 10, 12, and 13 under 35 U.S.C. §103(a) as being unpatentable over Applicants' Admitted Prior Art in view of Otto '548. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Claims 1-5, 8, 9, 12 and 13 under 35 U.S.C. §103(a) as being unpatentable over (U.S. 6,168,315 – hereinafter Nagase) in view of Otto '548. The reasons for the rejection are set forth in the Office Action and therefore not repeated. Applicants traverse this rejection and respectfully request reconsideration.

Amended, independent claim 1 recites: "...said sealing member having an approximately uniform annular cross section...."

Amended, independent claim 12 recites: "...the sealing member having an approximately uniform annular cross section...."

And amended, independent claim 13 recites: "...wherein the innermost sealing lip is a non-contact sealing lip leaving an annular gap between a free end thereof and the sealing surface of the sealing contact member, a radial size of the entire gap gradually increases in a direction away from the sealing surface area and inwardly of the annular working space while an

axial size of the entire gap is constant along the circumference of the free end of the innermost lip...."

Otto '548 discloses a wheel bearing assembly with a seal B. The seal B has an elastomeric sealing element 26 that has a primary lip 34 and a secondary lip 36. There is a clearance c between a cylindrical face 38 of the primary lip 34 and a cylindrical sealing surface 14 of a cone 8. (See Otto, at FIG. 2, and col. 4, lines 9-39). Additionally, in Otto '548, cylindrical face 38 is not continuous. Instead. Cylindrical face 38 is interrupted by cavities 44 configured to pump lubricant that enters the cavities 44 back toward rollers. (See Otto '548, at FIG. 3, and col. 4, lines 46-50).

Thus, the seal B does not have a uniform annular cross section. In other words, an annular cross section of seal B changes throughout the annulus.

Further, with the primary lip 34 a radial size of the entire gap does not gradually increase in a direction away from the sealing surface area and inwardly of the annular working space while an axial size of the entire gap is constant along the circumference of the free end of the innermost lip. In other words, while the cylindrical face 38 is interrupted by cavities 44 at portions thereof, at other portions thereof, it is not interrupted, and thus, a radial size of the gap at those uninterrupted portions is constant. Therefore, a radial size of the entire gap does not gradually increase in a direction away from the sealing surface area and inwardly of the annular working space.

Otto '744 discloses a labyrinth lip 76 with pumping cavities, whose operation is the same as that described in Otto '548. (See Otto '744, at FIG. 5, and col. 5, lines 27-46).

Applicants respectfully submit that to modify the devices of Otto '548 or Otto '744 to have a sealing member with an approximately uniform annular cross section, or such that the innermost sealing lip is a non-contact sealing lip leaving an annular gap between a free end thereof and the sealing surface of the sealing contact member, a radial size of the entire gap gradually increases in a direction away from the sealing surface area and inwardly of the annular working space while an axial size of the entire gap is constant along the circumference of the free end of the innermost lip, would change the principle of operation of the respective devices.

Applicants respectfully submit that neither Otto '548 nor Otto '744, either alone or in combination, disclose or suggest that primary lip 34 nor labyrinth lip 76 have an approximately uniform annular cross section. Further, Applicants respectfully submit that neither Otto '548 nor Otto '744, either alone or in combination, disclose or suggest that primary lip 34 nor labyrinth lip 76 are an innermost sealing lip that is a non-contact sealing lip leaving an annular gap between

a free end thereof and the sealing surface of the sealing contact member, a radial size of the entire gap gradually increases in a direction away from the sealing surface area and inwardly of the annular working space while an axial size of the entire gap is constant along the circumference of the free end of the innermost lip.

Applicants respectfully submit that, as disclosed in a non-limiting embodiment in the subject application, gaps defined between free ends of non-contact sealing lips 10a and 12a and sealing surfaces 2c and 15aa, respectively, are of a tapered shape. (See Specification, at FIGS. 2B and 3B, page 12, line 19 to page 13, line 7, and page 14, line 8 to page 15, line 11). In other words, a radial size of the entire gap gradually increases in a direction away from the sealing surface area and inwardly of the annular working space while an axial size of the entire gap is constant along the circumference of the free end of the innermost lip.

Such tapered-shaped gaps are effective in purging air inside the annular working space to the outside, especially when the air is thermally expanded due to heat evolved during the operation of the wheel support bearing assembly. Additionally, such tapered-shaped gaps are effective in controlling a gap dimension with little variation, as compared to gaps with a labyrinth seal structure, such as those disclosed in Otto '548 and Otto '744. The reason for such effective gap dimension control, as can be seen in FIG. 2B of the subject Specification, is that the gap between the free end face 10aa of the sealing lip 10a him to be sealing surface area 2c has a mean dimension that is larger than the gap $\delta 1$. Accordingly, deviation of the gap dimension $\delta 1$ does not largely effect deviation of such a mean dimension.

Applicants respectuly submit that neither APA nor Nagase cure the above-mentioned defects of Otto '548 or Otto '744.

And since neither APA nor Nagase disclose or suggest even a non-contact sealing lip, Applicants respectfully submit that none of APA, Nagase, or Otto '548, or Otto '744, either alone or in combination, disclose or suggest every element of independent claims 1, 12, or 13, arranged as required, respectively, by claims 1, 12, and 13.

In view of the foregoing, Applicants respectfully submit that the independent claims patentably define the present invention over the citations of record. Further, the dependent claims should also be allowable for the same reasons as their respective base claims and further due to the additional features that they recite. Separate and individual consideration of the dependent claims is respectfully requested.

Applicants respectfully submit that for at least similar reasons as those stated above, new claim 14 patentably distinguishes over the cited art and should be allowable.

In accordance with the foregoing, Applicants respectfully submit that all outstanding objections and rejections have been overcome and/or rendered moot, and further, that all pending claims patentably distinguish over the cited art. Thus, there being no further outstanding objections or rejections, the application is submitted as being in condition for allowance which action is earnestly solicited.

If the Examiner has any remaining issues to be addressed, it is believed that prosecution can be expedited by the Examiner contacting the undersigned attorney for a telephone interview to discuss resolution of such issues.

If there are any underpayments or overpayments of fees associated with the filing of this Amendment, please charge and/or credit the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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